

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Atty. Docket

NICOLAAS J.A. VAN VEEN ET AL

NL 010069

Serial No.

Group Art Unit

Filed: CONCURRENTLY

Ex.

Title: METHOD OF MANUFACTURING A SEMICONDUCTOR DEVICE AND A
SEMICONDUCTOR DEVICE OBTAINED BY MANES OF SAID METHOD

Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to calculation of the filing fee and examination, please
amend the above-identified application as follows:

IN THE CLAIMS

Please amend the claims as follows:

3. (amended) A method as claimed in claim, characterized in that
prior to the formation of the electrically conductive vias (5) and
prior to the provision of the semiconductor body (1) on the
flexible foil (6) that is detachably secured to the substrate (7),
the flexible foil (6) is detachably secured, on the side of the
insulating layer (3), to another substrate (9), after which the
conductor pattern (4) is formed in the conductive layer (4),

whereafter the flexible foil (6) is detachably secured, on the side of the conductive layer (4), to the substrate (7), after which the other substrate (9) is removed.

4. (amended) A method as claimed in claim 1, characterized in that a number of semiconductor bodies (1) are simultaneously formed so as to be connected to each other, and subsequently secured, on a side opposite the connection regions (2), to an elastic foil (11), after which they are separated by means of sawing or etching, whereafter the elastic foil (11) is stretched uniformly in all directions after which the individual semiconductor bodies (1) are provided and secured onto the flexible foil (6).

5. (amended) A method as claimed in claim 1, characterized in that prior to the provision of the semiconductor body (1) on the flexible foil (6), a part thereof that is situated between the apertures (5) in the insulating layer (3) is provided with an electrically insulating fixing agent (12) on which the semiconductor body (1) is placed and the height of which determines the distance between the semiconductor body (1) and the flexible foil (6).

6. (amended) A method as claimed in claim 1, characterized in that after the provision of the semiconductor body (1) on the flexible foil (6), a liquid, electrically insulating synthetic resin (13) is provided between the semiconductor body (1) and the flexible foil (6) as well as around the semiconductor body (1), which synthetic resin is subsequently cured.

8. (amended) A method as claimed in claim 1, characterized in that a solid photoresist layer (3) is used for the electrically insulating layer (3).

9. (amended) A method as claimed in claim 1, characterized in that for the material of the electrically insulating layer (3) use is made of a polyimide, and for the material of the conductive layer (4) use is made of copper.

10. (amended) A semiconductor device (10) which can suitably be used for surface mounting and which is obtained using a method as claimed in claim 1.

REMARKS

The foregoing amendments to the claims were made solely to avoid filing the claims in the multiple dependent form so as to

avoid the additional filing fee.

The claims were not amended in order to address issues of patentability and Applicants respectfully reserve all rights they may have under the Doctrine of Equivalents. Applicants furthermore reserve their right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or continuing applications.

Respectfully Submitted,

By 

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APPENDIX

3. (amended) A method as claimed in ~~claim 1 or 2~~, characterized in that prior to the formation of the electrically conductive vias (5) and prior to the provision of the semiconductor body (1) on the flexible foil (6) that is detachably secured to the substrate (7), the flexible foil (6) is detachably secured, on the side of the insulating layer (3), to another substrate (9), after which the conductor pattern (4) is formed in the conductive layer (4), whereafter the flexible foil (6) is detachably secured, on the side of the conductive layer (4), to the substrate (7), after which the other substrate (9) is removed.

4. (amended) A method as claimed in ~~any one of the preceding claims~~claim 1, characterized in that a number of semiconductor bodies (1) are simultaneously formed so as to be connected to each other, and subsequently secured, on a side opposite the connection regions (2), to an elastic foil (11), after which they are separated by means of sawing or etching, whereafter the elastic foil (11) is stretched uniformly in all directions after which the individual semiconductor bodies (1) are provided and secured onto the flexible foil (6).

5. (amended) A method as claimed in ~~any one of the preceding~~
~~claims~~claim 1, characterized in that prior to the provision of the
semiconductor body (1) on the flexible foil (6), a part thereof
that is situated between the apertures (5) in the insulating layer
(3) is provided with an electrically insulating fixing agent (12)
on which the semiconductor body (1) is placed and the height of
which determines the distance between the semiconductor body (1)
and the flexible foil (6).

6. (amended) A method as claimed in ~~any one of the preceding~~
~~claims~~claim 1, characterized in that after the provision of the
semiconductor body (1) on the flexible foil (6), a liquid,
electrically insulating synthetic resin (13) is provided between
the semiconductor body (1) and the flexible foil (6) as well as
around the semiconductor body (1), which synthetic resin is
subsequently cured.

8. (amended) A method as claimed in ~~any one of the preceding~~
~~claims~~claim 1, characterized in that a solid photoresist layer (3)
is used for the electrically insulating layer (3).

9. (amended) A method as claimed in ~~any one of the preceding~~
~~claims~~claim 1, characterized in that for the material of the

electrically insulating layer (3) use is made of a polyimide, and
for the material of the conductive layer (4) use is made of copper.

10. (amended) A semiconductor device (10) which can suitably be used for surface mounting and which is obtained using a method as claimed in ~~any one of the preceding claims~~claim 1.

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